

Amendments to Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (canceled)
2. (currently amended) Device for broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, via non-contacting rotary joints, wherein said first unit ~~comprising~~ comprises:
 - a data source for generating a serial data stream;
 - a transmitter for generating electrical signals from said serial data stream from said data source;
 - a controller coupled between said data source and said transmitter for controlling said serial data stream by converting a data rate or data package size of said data source into a desired value of data rate or data package size, wherein said controller comprises:
 - means for storing data from the serial data stream; and
 - means for outputting the stored data to said transmitter in accordance with the desired value of data rate or data package size; and
 - a transmitter conductor array for conducting said electrical signals generated by said transmitter;
 - and wherein said second unit ~~comprising~~ comprises:
 - a receiving antenna for tapping electrical signals in the near field of said transmitter conductor array;
 - a receiver for receiving the signals tapped by said receiving antenna; and
 - a data sink for subsequent processing of the signals received by said receiver;

~~characterized in that a controller is provided between said data source and said transmitter for controlling said data stream by converting a data rate or data package size of said data source to a desired value of data rate or package size.~~

3. (canceled)

4. (currently amended) Device according to Claim 1 or 2, ~~characterized in that~~ wherein the desired value is predetermined by a desired-value generator according to actual transmission characteristics of a data transmission path between said transmitter and said receiver or according to another measurable value.

5. (currently amended) Device according to Claim 1 or 2, ~~characterized in that~~ further comprising an analyzer ~~means is disposed~~ coupled between said receiver and said data sink, ~~that wherein~~ said analyzer ~~means comprises additional means is configured~~ for signaling incorrectly transmitted data to said controller by means of an additionally provided transmission ~~channel path~~, and ~~that wherein~~ said controller ~~means (7)~~ is ~~designed~~ configured for repeating ~~said~~ incorrectly received ~~transmitted~~ data packages upon request by said analyzer ~~means~~.

6. (currently amended) Device according to Claim 1 or 2, ~~characterized in that~~ further comprising a micro controller ~~is provided~~ coupled for controlling and diagnosing the device.

7. (currently amended) Device according to Claim 1 or 2, ~~characterized in that~~ wherein the device is self-learning and adapts itself dynamically to respective conditions of operation.

8. (currently amended) Method of broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, ~~in particular~~ via non-contacting rotary joints, said ~~first unit~~ method comprising:

- a data source for generating a serial data stream ~~from a data source on said first unit~~;
- a transmitter for generating electrical signals from said serial data stream ~~from said data source with a transmitter on said first unit~~;

controlling said serial data stream, with a controller on said first unit, by storing data from the serial data stream and signaling a desired value of data rate or data package size to said data source or said transmitter;

—a transmitter conductor array for conducting said electrical signals generated by said transmitter with a transmitter conductor array on the first unit;
and said second unit comprising:

—a receiving antenna for tapping electrical signals in the near field of said transmitter conductor array with a receiving antenna on said second unit;

—a receiver for receiving the signals tapped by said receiving antenna at a receiver on said second unit; and

—a data sink for subsequent processing of the signals received by said receiver in a data sink on said second unit;

—characterized in that a controller is provided for controlling said data stream by signalling a desired value of data rate or data package size to said data source or said transmitter.

9. (new) The method according to Claim 8, wherein prior to said step of controlling, the method further comprises selecting the desired value of data rate or data package size in correspondence with actual transmission characteristics of a data transmission path between said transmitter and said receiver.

10. (new) The method according to Claim 9, wherein said step of controlling the serial data stream comprises supplying the desired value of data rate or data package size to said transmitter.

11. (new) The method according to Claim 10, wherein said step of controlling the serial data stream comprises storing data from the serial data stream if the desired data rate is lower than a rate at which the serial data stream is generated by the data source in said generating step.

12. Device according to Claim 1, further comprising a decoder coupled to or included within said receiver for converting a data rate or data package size of the signals received by said receiver into the data rate or data package size generated by said data source.